

WHAT IS CLAIMED IS:

1. An image processing apparatus for reproducing a recorded digital data stream, comprising:

5 determination means for determining whether an object having a predetermined attribute exists in the recorded digital data stream; and

reproducing means for changing a reproducing form of the object and reproducing the object when said determination means determines that the object having the 10 predetermined attribute exists.

2. The apparatus according to claim 1, wherein

the digital data stream includes a data stream coded by a digital television MPEG4 scheme, and has main data and 15 sub-data,

the main data includes data having a plurality of objects divided in units of predetermined objects, and

the sub-data includes attribute information of the object.

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3. The apparatus according to claim 2, wherein the digital data stream includes a digital television data stream containing an object coded by an MPEG4 scheme and the sub-data multiplexed on an MPEG2 bitstream.

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4. The apparatus according to claim 1, wherein said

reproducing means does not display the object in  
reproducing the object having the predetermined attribute.

5. The apparatus according to claim 1, wherein the  
5 predetermined attribute includes a real-time information  
attribute which is significant in recording the digital  
data stream.

6. The apparatus according to claim 1, wherein  
10 the apparatus further comprises timepiece means for  
measuring current time, and

15 said reproducing means replaces the object by another  
display based on time measurement by said timepiece means  
in reproducing the object having the predetermined  
attribute.

7. A display device for receiving and displaying digital  
data reproduced by a reproducing device, comprising:  
20 determination means for determining whether an  
object having a predetermined attribute exists in the  
digital data; and

25 display control means for changing a display form of  
the object and displaying the object when said  
determination means determines that the object having the  
predetermined attribute exists.

8. The device according to claim 7, wherein said display control means does not display the object in reproducing the object having the predetermined attribute.

5 9. The device according to claim 7, wherein the predetermined attribute includes a real-time information attribute which is significant in recording the digital data.

10 10. The device according to claim 7, wherein the device further comprises timepiece means for measuring current time, and said display control means replaces the object by another display based on time measurement by said timepiece 15 means in reproducing the object having the predetermined attribute.

11. An image processing method of reproducing a recorded digital data stream, comprising:  
20 the determination step of determining whether an object having a predetermined attribute exists in the recorded digital data stream; and the reproducing step of changing a reproducing form of the object and reproducing the object when the object 25 having the predetermined attribute is determined to exist in the determination step.

12. The method according to claim 11, wherein  
the digital data stream includes a data stream coded  
by a digital television MPEG4 scheme, and has main data and  
5 sub-data,

the main data includes data having a plurality of  
objects divided in units of predetermined objects, and  
the sub-data includes attribute information of the  
object.

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13. The method according to claim 12, wherein the digital  
data stream includes a digital television data stream  
containing an object coded by an MPEG4 scheme and the  
sub-data multiplexed on an MPEG2 bitstream.

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14. The method according to claim 11, wherein said  
reproducing step comprises not displaying the object in  
reproducing the object having the predetermined attribute.

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15. The method according to claim 11, wherein the  
predetermined attribute includes a real-time information  
attribute which is significant in recording the digital  
data stream.

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16. The method according to claim 11, wherein  
the method further comprises the timepiece step of

measuring current time, and  
said reproducing step comprises replacing the object  
by another display based on time measurement in the  
timepiece step in reproducing the object having the  
5 predetermined attribute.

17. An image processing apparatus for reproducing a  
recorded digital data stream, comprising:  
determination means for determining whether an  
10 object having a predetermined attribute exists in the  
recorded digital data stream;

designating means for designating a reproducing form  
of the object having the predetermined attribute from a  
plurality of reproducing forms; and  
15 reproducing control means for reproducing an image  
corresponding to the object having the predetermined  
attribute in the reproducing form designated by said  
designation means when said determination means determines  
that the object having the predetermined attribute exists.  
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18. The apparatus according to claim 17, wherein the  
reproducing form designated by said designation means  
includes reproducing by using an icon corresponding to the  
predetermined attribute.

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19. The apparatus according to claim 17, wherein the

reproducing form designated by said designation means further includes reproducing by using an audio object.

20. The apparatus according to claim 17, wherein the  
5 reproducing form designated by said designation means includes non-display of the object having the predetermined attribute.

21. The apparatus according to claim 17, wherein the  
10 reproducing form designated by said designation means includes display of time information obtained in recording the digital data stream.

22. The apparatus according to claim 17, wherein the  
15 predetermined attribute includes an emergency news telop.

23. The apparatus according to claim 17, wherein said designation means comprises:

instruction means for instructing a reproduced icon  
20 on a display screen; and  
means for changing a set value for designating the  
reproducing form in accordance with instruction operation  
of said instruction means.

25 24. The apparatus according to claim 17, wherein  
the digital data stream includes a data stream coded

by a digital television MPEG4 scheme, and has main data and sub-data,

the main data includes data having a plurality of objects divided in units of predetermined objects, and

5 the sub-data includes attribute information of the object.

25. The apparatus according to claim 24, wherein the digital data stream includes a digital television data 10 stream containing an object coded by an MPEG4 scheme and the sub-data multiplexed on an MPEG2 bitstream.

26. The apparatus according to claim 17, wherein designation by said designation means can be executed 15 during reproducing of the object having the predetermined attribute.

27. An image processing method in an image processing apparatus for reproducing a recorded digital data stream, 20 comprising:

the determination step of determining whether an object having a predetermined attribute exists in the recorded digital data stream;

the designation step of designating a reproducing 25 form of the object having the predetermined attribute from a plurality of reproducing forms; and

the reproducing control step of reproducing an image corresponding to the object having the predetermined attribute in the reproducing form designated in the designation step when the object having the predetermined attribute is determined to exist in the determination step.

28. The method according to claim 27, wherein the reproducing form designated in the designation step includes reproducing by using an icon corresponding to the predetermined attribute.

29. The method according to claim 27, wherein the reproducing form designated in the designation step further includes reproducing by using an audio object.

15 30. The method according to claim 27, wherein the reproducing form designated in the designation step includes non-display of the object having the predetermined attribute.

20 31. The method according to claim 27, wherein the reproducing form designated in the designation step includes display of time information obtained in recording the digital data stream.

25 32. The method according to claim 27, wherein the

predetermined attribute includes an emergency news telop.

33. The method according to claim 27, wherein the designation step comprises:

5 the instruction step of instructing a reproduced icon on a display screen; and

the step of changing a set value for designating the reproducing form in accordance with instruction operation in the instruction step.

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34. The method according to claim 27, wherein the digital data stream includes a data stream coded by a digital television MPEG4 scheme, and has main data and sub-data,

15 the main data includes data having a plurality of objects divided in units of predetermined objects, and the sub-data includes attribute information of the object.

20 35. The method according to claim 34, wherein the digital data stream includes a digital television data stream containing an object coded by an MPEG4 scheme and the sub-data multiplexed on an MPEG2 bitstream.

25 36. The method according to claim 34, wherein designation in the designation step can be executed during reproducing

of the object having the predetermined attribute.

37. A computer-readable recording medium which stores a program of executing an image processing method of  
5 reproducing a recorded digital data stream, comprising:  
a determination step module for determining whether an object having a predetermined attribute exists in the recorded digital data stream; and  
-a reproducing module for changing a reproducing form  
10 of the object and reproducing the object when the object having the predetermined attribute is determined to exist in the determination step module.

38. A computer-readable recording medium which stores a program of executing an image processing method of  
15 reproducing and displaying a recorded digital data stream, comprising:  
a determination step module for determining whether an object having a predetermined attribute exists in the recorded digital data stream;  
20 a designation step module for designating a reproducing form of the object having the predetermined attribute from a plurality of reproducing forms; and  
a reproducing control step module for reproducing an  
25 image corresponding to the object having the predetermined attribute in the reproducing form designated in the

designation step module when the object having the predetermined attribute is determined to exist in the determination step module.